

It is quite true that the *Quadrumanæ* derive advantage from this position of the foot in climbing trees, and that it is carried to excess in the Sloths, which can only apply the outer edge of the foot to the ground. But we may ask, was the inversion of the sole of the foot actually carried to such an extent in the *Megalonyx*? And, admitting its existence in an inferior degree, is it then conclusive as to the scansorial habits of that species?

M. Lund expressly states that it is produced by a different structure and arrangement of the tarsal bones, from that which exists in the Sloth, but he does not specify the nature of this difference.

If the astragalus, which I have referred with doubt to the *Megalonyx*, do not actually belong to that genus, it is evidently part of a very closely allied species. Now this astragalus, as we have seen, resembles most closely that of the *Megatherium*; and since we may infer that the calcaneum, scaphoides, and cuboides had a like correspondence, the inclination of the sole of the foot inwards must have been very slight, as I have determined from examination of the structure and co-adaptation of those bones in the incomplete skeleton of the *Megatherium* in the London College of Surgeons. Such an inclination of the foot may be conceived to have facilitated the bending of the long claws upon the sole, during the ordinary progressive movements of the animal, but it is quite insufficient to justify the conclusion, that it related to an application of the hind feet for the purposes of climbing.

It is not without interest again to call to mind the deviation of the structure

"Thus in every point of comparison we have instituted between the organization of burrowers and climbers; we have seen that the *Megalonyx* constantly differs from the former and resembles the latter; but the point to which I last alluded (the obliquity of foot), I consider to be quite decisive.

"There is one other point in its organization, which is not quite without weight in reference to our present inquiry,—I mean its unusually powerful tail. Now, it is certainly true that many animals which are not climbers have a powerful tail, as e.g. Armadillos, while the others that climb well, have none, as Sloths and Apes. But when we find a remarkably powerful tail attached to an animal that according to all probability was a climber, we are led to infer that this organ must have served for that purpose: in other words, that the *Megalonyx* was furnished with a prehensile tail.

"How far the *Megatherium* is to be considered in the same light as the *Megalonyx* cannot be decided without an accurate and scientific examination of its skeleton at Madrid. Pander and D'Alton do not mention any distortion of the hind-foot, neither does their figure exhibit any. It is nevertheless quite possible that such may exist, but that it is disguised by the faulty manner in which the skeleton is put up. It strikes me as little probable that two animals which agree so well in the principal particulars of their organization should differ so much in one of the most important. The *Megatherium* has been proved by later discoveries to possess the same powerful tail as the *Megalonyx*, and as it corresponds also with the latter entirely in the formation of its extremities, the same difficulties present themselves against the supposition of its having been a burrower. But if the *Megatherium* was really a climber, it must have had still more occasion (on account of its greater size), for that peculiar arrangement of the hind-feet which we have described in the *Megalonyx*."

of the astragalus of the *Scelidotherium* from the *Megatherioid* to the *Dasypodoid* type of structure. For if the *Megatherioid* type of structure had really been one suitable to the exigencies of climbing quadrupeds, it might have been expected to have exhibited the scansorial modifications more decidedly, as the species diminished in stature; but as regards the instructive bone of the hind-foot, the modifications of which we have just been considering, this is by no means the case.

#### DESCRIPTION OF A MUTILATED LOWER JAW OF THE

#### MEGALONYX JEFFERSONII.

In the preceding section an astragalus was described, which was regarded as belonging possibly to the same Edentate species as the jaw figured and described, p. 69, Pl. XVIII. and XIX., under the name of *Myiodon Darwinii*; but the same correspondence,—that of relative size,—renders it equally possible that this astragalus may belong to the species of *Megalonyx* to which the lower jaw now under consideration appertains. There could be no doubt, from its structure, that it was the astragalus of a gigantic species of the order *Bruta*, and of the *Megatherioid* family, and more nearly allied to the *Megatherium* than is the *Scelidotherium*, but sufficiently distinct from both.

The lower jaw, figured in Pl. XXIX., is the only fossil brought home by Mr. Darwin that could be confidently referred to the genus *Megalonyx*; but the form of the tooth in place on the right side of the jaw fully justifies this determination. The jaw itself is deeply and firmly imbedded in the matrix, so that only the upper or alveolar border is visible. The coronoid and condyloid processes are broken away, and the texture of the remaining part of the jaw was too friable, and adhered too firmly to the surrounding matrix to admit of more of its form being ascertained than is figured.

There were four molars on each side of this jaw; the large oblique perforation near the fractured symphysis is the anterior extremity of the wide dental canal. The forms of the alveoli are best preserved in the right ramus: the first is the smallest, and seems to have contained a tooth, of which the transverse section must have been simply elliptical: the second tooth is likewise laterally compressed, but the transverse section is ovate, the great end being turned forwards: the third socket presents a corresponding form, but a larger size: the fourth socket is too much mutilated to allow of a correct opinion being formed as to the shape of the tooth which it once contained. The natural size of the tooth